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Editorial.—THE TYPES made some annoying blunders in our last number. On page 94 Dr. Gray is made to say that he "will" remember the satisfaction he had, instead of "well" remember, and on page 100 Mr. Ward talks of "Proterogyn."

THE STUDY of the low forms of plant life is beginning to attract more and more attention. Nothing can be more easily observed, or is more unknown than the simplest of plants. The cheapening of good microscopes and the multiplication of necessary books and figures will soon bring crowds of students to this field.

THERE HAVE BEEN added to the Catalogue of Indiana Plants during the past season such plants as *Baptisia tinctoria*, growing throughout the Kankakee Valley, and in the bogs of the same region *Habenaria leucophaea*, growing quite abundantly. *Osmunda Claytoniana* was found growing very luxuriantly in Pulaski County, with sterile and fertile pinnæ growing hit and miss up and down the huge fronds as well as in the normal fashion.

AT MONTREAL Dr. Louis Elsborg, of New York, read a paper proposing what was called the "bioplason theory," as opposed to the "cell theory," for plant-structure. According to this observer all living matter is made up of reticulations of living substance with inert matter filling the reticulum. Besides the fact that it is a little late to call in question a theory which has about ceased to be theoretical, the fact that many of the best microscopists fail to find this living net-work renders the proposed theory a little unsubstantial.

THE BUFFALO SOCIETY OF NATURAL SCIENCES has just issued the first part of a Catalogue of the "Plants of Buffalo and its Vicinity," including the Phanerogams. The compiler is David F. Day, Esq., and the thoroughness and beauty of the work reflect great credit upon him and the Society which publishes it. The Catalogue is accompanied by a good map of the region studied which includes all the country within a radius of fifty miles of Buffalo, and has been divided into several regions, known as the "Erie District," "Alleghany District," "Genesee District," and "Ontario District." When completed the catalogue will contain the names of 2800 species and what is unusual in plant catalogues will include the Cryptogams. The Phanerogams number 1217 species, the 10

largest orders being *Compositæ* (143 species), *Cyperaceæ* (105), *Gramineæ* (88), *Rosaceæ* (52), *Leguminosæ* (45), *Menthaceæ* (which name looks unnatural—39), *Ranunculaceæ* (36), *Cruciferae* (36), *Orchidaceæ* (34), and *Liliaceæ* (31). The largest genera are *Carex* (72 species), *Solidago* (20), *Aster* (19), *Polygonum* (16), *Salix* (14), *Potamogeton* (12), *Viola* (11), *Habenaria* (10).

The Timber Line.—In Dr. Rothrock's valuable report on botany, recently published by the "Surveys West of the 100th Meridian," the author quotes Dr. Englemann's statement that "there is little or no increase in altitude in the timber line toward the equator, in our western hemisphere, south of the 41st parallel of north latitude."

This statement is approximately true regarding the Rocky Mountains, owing, however, not to any general principle, but to what may be termed an accident of topography. Even here a decided rise is observable from 41° to 39° of latitude. In the Sierra Nevada, the Basin and Wahsatch Ranges, the statement does not hold good, the timber line rising rapidly as the latitude decreases. Again, on the volcanic peaks of the Mexican plateau, the timber line is higher by several thousands of feet than it is anywhere in the United States.

Barring the prohibitive circumstances of absence of soil and moisture, the height of the timber line is purely a question of temperature. The latter is a function of the latitude, the elevation, and the mass, of the country in the neighborhood. A great mass of country, if raised to a considerable height above the sea, as in the case of the great Cordilleran plateau of the West, carries up with it, to a certain extent, the isothermals. A glance at Mr. Schott's admirable isothermal charts amply illustrates the general fact. Washington, D. C., has a mean annual temperature of 55° Fah., while Denver, Col., a fraction of a degree farther north, and at an elevation of 5,300 feet, has a mean temperature, not of 37°, as the height might indicate, but of 49°.

Therefore, in considering the height of the timber line, we must regard the mountain ranges in connection with the plateau upon which they stand, their latitudes, heights, and masses, or what, in a measure, sums up these three, their temperatures, as it is by these that its height is determined.

Looking at the subject from this point of view, a fair comparison may be instituted between the timber line in different latitudes and on different ranges in the same latitude.

The actual elevation above the sea level of the timber line in the Cordilleras of North America ranges from 6 or 7,000 to 12,000 feet. It is lower in the Coast and Cascade Ranges of Washington Territory, where it is at about the former figures. Following the Cascade Range southward into Oregon, the timber line rises to a